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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,185	09/10/2004	Yukihito Ichikawa	121069	8959
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EXAMINER				
YOUNG, NATASHA E				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/507,185

**Applicant(s)**

ICHIKAWA, YUKIHIITO

**Examiner**

NATASHA YOUNG

**Art Unit**

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 15-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/CIS)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date 11/07/2007.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 15-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa et al (US 4,568,402) in view of Kasai et al (US 5,720,787).

Regarding claim 15, Ogawa et al discloses a honeycomb structure comprising: a cell structural part including a plurality of cells partitioned by partition walls in a honeycomb shape to form flow paths allowing a fluid to flow therein; and an outer wall disposed on an outer peripheral surface of the cell structural part (see figures 1-4)

Ogawa et al does not disclose a honeycomb structure characterized in that an outermost peripheral cell positioned in an outermost periphery of the cell structural part and a predetermined number of cells (outer peripheral cells) positioned in an inner direction from the outermost peripheral cell among the cells are sealed by an inner

peripheral surface of the outer wall in an end portion and/or an intermediate portion of at least one of the outermost peripheral cell and the outer peripheral cell in a central axis direction to form shielded cells which prevent the fluid from flowing.

However, Ogawa et al discloses sealing members (4, 4") that create shielded cells (see figures 1-4 and column 3, line 54 through column 4, line 39).

The shielded cells acts as an extension of the outer wall since no fluid can flow through the sealing members (4, 4') in a central axis direction.

In addition, Kasai et al discloses the thickness of the sealing portions in the filter are aligned linearly or in the known technique in which the thicknesses of the sealing portions in the filter are made gradually thicker from an outer peripheral portion to a center portion and adjacent sealing portions are arranged at different positions in a downstream side of the filter (see figures 5-6 and column 1, line 47 through column 2, line 13) such that an intermediate portion of as least one of the outermost peripheral cell and the outer peripheral cell in a central axis direction to form shielded cells which prevent the fluid from flowing.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Ogawa et al with the teachings of Kasai et al to prevent a filter fusing due to a self-ignition of the trapped soot in the filter (see Kasai et al column 1, lines 47-63).

Claims 16-21 depend on claim 15 such that the reasoning used to reject claim 15 will be used to reject the dependent portions of the claims.

Regarding claim 16, Ogawa et al does not disclose a honeycomb structure wherein a thickness of the shielded cell in a diametric direction of the honeycomb structure is 10% or less of an outer diameter of the honeycomb structure.

However, Ogawa et al discloses sealing members (4, 4") that create shielded cells (see figures 1-4 and column 3, line 54 through column 4, line 39).

The shielded cells acts as an extension of the outer wall since no fluid can flow through the sealing members (4, 4') in a central axis direction.

Kasai et al discloses the thickness of the sealing portions in the filter are aligned linearly or in the known technique in which the thicknesses of the sealing portions in the filter are made gradually thicker from an outer peripheral portion to a center portion and adjacent sealing portions are arranged at different positions in a downstream side of the filter (see figures 5-6 and column 1, line 47 through column 2, line 13) such that an intermediate portion of as least one of the outermost peripheral cell and the outer peripheral cell in a central axis direction to form shielded cells which prevent the fluid from flowing.

It would have been obvious to gradually decrease the thickness of the sealing portions such that the diameter of the fluid flow through the honeycomb structure increases resulting in increased filtration.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the thickness of the shielded cell in a diametric direction of the honeycomb structure is 10% or less of an outer diameter of the honeycomb structure, since it has been held that where the general conditions of a claim are

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disclosed in the prior art, discovering the optimum or workable ranges involves skill in the art (see MPEP 2144.05 (II-A)).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Ogawa et al with the teachings of Kasai et al to prevent a filter fusing due to a self-ignition of the trapped soot in the filter (see Kasai et al column 1, lines 47-63).

Regarding claim 17, Ogawa et al discloses wherein the cell structural part and the outer wall are constituted of ceramic materials (see column 3, line 9 through column 4, line 39), which discloses the honeycomb structure and the sealing members are made from ceramic material.

Regarding claim 18, Ogawa et al discloses a honeycomb structure wherein the cell structural part and the outer wall are constituted of metal materials (see column 3, line 9 through column 4, line 39), which discloses the use of cordierite, a metal ceramic, as the ceramic material.

Regarding claim 19, Ogawa et al discloses a honeycomb structure wherein the cell structural part contains a material having an adsorption function or a catalyst function (see column 3, line 54 through column 4, line 6).

Regarding claim 20, Ogawa et al discloses a honeycomb structure wherein the outer wall is constituted of a heat-resistant material (see column 3, line 54 through column 4, line 39).

Regarding claim 21, Ogawa et al discloses a honeycomb structure where cells can be adjacently plugged or alternately plugged (see figures 2 and 4).

It would have been obvious to try to construct a honeycomb structure wherein one end has sealing members used to plug adjacent cells and at the other end the sealing members are used to plug alternately cells as these represent a finite number of predictable solutions of preventing filter fusing and increasing mechanical strength of the honeycomb structure.

Regarding claim 22, Ogawa et al discloses a catalyst body comprising a honeycomb structure comprising: a cell structural part including a plurality of cells partitioned by partition walls in a honeycomb shape to form flow paths allowing a fluid to flow therein; and an outer wall disposed on an outer peripheral surface of the cell structural part (see figures 1-4 and column 3, line 54 through column 4, line 39).

Ogawa et al does not disclose a honeycomb structure wherein an outermost peripheral cell positioned in an outermost periphery of the cell structural part and a predetermined number of cells (outer peripheral cells) positioned in an inner direction from the outermost peripheral cell among the cells are sealed by an inner peripheral surface of the outer wall in an end portion and/or an intermediate portion of at least one of the outermost peripheral cell and the outer peripheral cell in a central axis direction to form shielded cells which prevent the fluid from flowing, the honeycomb structure supporting a catalyst inside the cells and/or inside the partition walls.

However, Ogawa et al discloses sealing members (4, 4") that create shielded cells (see figures 1-4 and column 3, line 54 through column 4, line 39).

The shielded cells act as an extension of the outer wall since no fluid can flow through the sealing members (4, 4') in a central axis direction.

In addition, Kasai et al discloses the thickness of the sealing portions in the filter are aligned linearly or in the known technique in which the thicknesses of the sealing portions in the filter are made gradually thicker from an outer peripheral portion to a center portion and adjacent sealing portions are arranged at different positions in a downstream side of the filter (see figures 5-6 and column 1, line 47 through column 2, line 13) such that an intermediate portion of at least one of the outermost peripheral cell and the outer peripheral cell in a central axis direction to form shielded cells which prevent the fluid from flowing.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Ogawa et al with the teachings of Kasai et al to prevent a filter fusing due to a self-ignition of the trapped soot in the filter (see Kasai et al column 1, lines 47-63).

Claim 23 depends on claim 22 such that the reasoning used to reject claim 22 will be used to reject the dependent portions of the claim.

Regarding claim 23, Ogawa et al discloses a catalyst body wherein the catalyst has a function of purifying an automobile exhaust gas (see column 3, line 54 through column 4, line 6).

### ***Response to Arguments***

Applicant's arguments, see Remarks, filed January 30, 2008, with respect to the rejection(s) of claim(s) 15-20, 22-23 under 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further



consideration, a new ground(s) of rejection is made in view of Ogawa et al (US 4,568,402) in view of Kasai et al (US 5,720,787).

Applicant's arguments, see Remarks, filed January 30, 2008, with respect to the rejection(s) of claim(s) 21 under 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Ogawa et al (US 4,568,402) in view of Kasai et al (US 5,720,787).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATASHA YOUNG whose telephone number is (571)270-3163. The examiner can normally be reached on Mon-Thurs 7:30am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NY

/Walter D. Griffin/  
Supervisory Patent Examiner, Art Unit 1797